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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/822,142

04/12/2004

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07/11/2007

EXAMINER

NGUYEN, DUNG T

ART UNIT

PAPER NUMBER

2828

MAIL DATE

DELIVERY MODE

07/11/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/822,142

Applicant(s)

KATSUYAMA ET AL.

Examiner

Dung (Michael) T. Nguyen

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2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) 10,11 and 19-37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,15 and 16 is/are rejected.
- 7) ☒ Claim(s) 5-9,12-14,17 and 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 12/02/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

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**OFFICE ACTION**  
***Election/Restrictions***

Applicant's election of Species I (claims 1-19, 12-18) in the reply filed on 06/15/07 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

***Claim Objections***

Claim 1 is objected to because of the following informalities: line 27, 'said a' should be only 'said'. Appropriate correction is required.

Claim 18 is objected to because of the following informalities: line 3, 'said' after and should be 'a'. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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Claims 1-4, 15-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Takahashi et al. (7180100).

Claims 1-4, Fig.99 shows a surface emitting semiconductor device comprising:

a first conductivity type semiconductor region having a side surface 142, said first conductivity type semiconductor region being provided on a GaAs semiconductor region 140;

an active layer 143 (GaInNAs) having a side surface, said active layer being provided on said first conductivity type semiconductor region;

a second conductivity type semiconductor layer 144, provided on said active layer, having a side surface;

a current block semiconductor region 146 provided on said side surface of the first conductivity type semiconductor region, said side surface of said active layer, and said side surface of said second conductivity type semiconductor layer;

a first DBR portion 141 having a plurality of first DBR semiconductor layers and a plurality of second DBR semiconductor layers, said first DBR semiconductor layers and said second DBR semiconductor layers being arranged alternately; and

a second DBR portion 145 having a plurality of third DBR semiconductor layers and a plurality of fourth DBR semiconductor layers, said third DBR semiconductor layers and said fourth DBR semiconductor layers being arranged alternately;

wherein said first conductivity type semiconductor region, said active layer and said second conductivity type semiconductor layer are provided between said first DBR portion and said second DBR portion;

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wherein said current block semiconductor region is provided for confining carriers to said first conductivity type semiconductor region, said active layer, and said second conductivity type semiconductor layer; and wherein said active layer is made of III-V compound semiconductor including at least nitrogen element as a V group member.

Claim 15, Fig.99 shows said GaAs semiconductor region is provided by gallium arsenide substrate 140.

Claim 16, Fig.99 shows said surface emitting semiconductor device is constituted to provide at least one of a semiconductor laser diode.

#### *Allowable Subject Matter*

Claims 5-7, 13-14, 17-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Takahashi fail to disclose the limitations as recited in the claims.

Claims 8-9, 12 are also found objected due to their dependency of claim 7.

#### **Communication Information**

**Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung (Michael) T Nguyen whose telephone number is (571) 272-1949. The examiner can normally be reached on 8:30 - 17:00.**

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Min Harvey can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

**Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3329.**



**Michael Dung Nguyen**  
**Primary Examiner**

07/02/07